

PATENT  
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN THE APPLICATION OF:

BENTON ET AL.

CASE NO.: FA0881 US NA

APPLICATION NO.: 09/536,137

GROUP ART UNIT: 2171

FILED: MARCH 28, 2000

EXAMINER: C. NGUYEN

APPEAL NO.: UNKNOWN

CONFIRMATION NO.: 5926

FOR: COLOR MATCHING METHOD FOR  
AUTOMOTIVE REFINISHINGBRIEF OF APPELLANTCommissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

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Technology Center 2100

Sir:

Appellant hereby submits this brief (in triplicate) in support of the appeal from the final Office Action mailed October 7, 2003, finally rejecting Claims 1-13. Please charge the Appeal Fee of \$330.00 [37 CFR 1.17(c)] to Deposit Account 04-1928 (E. I. du Pont de Nemours and Company). If the above fee is insufficient or incorrect, please charge or credit the above-identified Deposit Account. A duplicate copy of this sheet is enclosed.

Real Party in Interest

The real party in interest in this appeal is E. I. du Pont de Nemours and Company, Inc., Wilmington, DE. The interest of DuPont arises by virtue of an Assignment of the entire right, title and interest in and to the application which Assignment was recorded on July 24, 2000 at Reel 011011, Frame 0910.

Related Appeals and Interferences

There are no related appeals or interferences.

Status of Claims

Claims 1-13 are pending and stand finally rejected.

Claims 1-13, as finally rejected by the Office, are reproduced in the Appendix.

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**Status of Amendments**

There are no unentered amendments to the specification or the claims.

**Summary of Invention**

The present invention is directed to a method for matching paint color on a vehicle being repaired at a typical collision repair facility (oftentimes referred to as a body shop) and in particular for determining the best match refinish paint formulation (oftentimes referred to as collision repair paint) for the vehicle in question. When repairing a vehicle, for example, that has been damaged in a collision, it is difficult to match the color and effect (such as metallic effect) of the vehicle's original finish, and the present invention provides a method which finds the best matching refinish paint formulation a high percentage of the time, without the need to place expensive color reading equipment at the body shop.

During prosecution, Claims 1, 3, 5, 7, and 11 were amended to clearly point out that there is no need to simultaneously input physical color readings with other vehicle specific information into the claimed method to identify the best matching paint formulation. The claimed method only requires a very limited set of information, as described on page 5, lines 29-30 and page 7, lines 17-25 of the specification, before processing the input data and locating the best match refinish paint. The terms "gathering only" and "ascertaining only" have been used in the claims to clearly point out that physical color readings are not needed to locate the matching paint.

The desire to avoid having to take paint color measurements from the damaged vehicle is clearly stated in the background section of the instant specification (see, page 2, lines 10-22 of the specification). This portion of the specification explains that one advantage of the present invention is that it does not require the placement of expensive optical equipment in the body shop, such as colorimeters and spectrophotometers, to identify the best matching refinish paint formulation. Accordingly, the invention as claimed only requires certain specific easy-to-obtain vehicle information and does not require physical color readings to be obtained before the matching paint formulation is identified.

**Issues**

Whether U.S. Patent No. 6,522,997 (Corrigan et al.) anticipates the invention under 35 USC §102(e).

**Grouping of Claims**

Claims 1-13 shall stand or fall together.

**Argument**

Claims 1-13 stand rejected under 35 USC §102(e) as unpatentable over Corrigan et al., U.S. Patent No. 6,522,997 ("Corrigan"). The Office position is that Corrigan discloses the claimed invention, including use of the vehicle's VIN (Vehicle Identification Number) to obtain the best matching refinish paint formulation. However, Corrigan also requires the body shop to first take color readings from an unaffected area of the paint on the vehicle and simultaneously input these physical color readings into the Corrigan method to retrieve the matching refinish paint formulation.

More specifically, Corrigan requires the body shop to first take physical color measurements of an unaffected portion of the vehicle's paint using an appropriate color-measuring device, such as a spectrophotometer, and then input both the physical color readings (taken from the original paint) and the vehicle's individual VIN information into the computer before the matching paint is found. (See, col. 5, lines 2-36). The method then simultaneously utilizes, on a weighted basis, both sets of information to determine and retrieve the best color match paint formulation for the vehicle being repaired.

As previously mentioned, this plainly contrasts with the method of the present invention which avoids the need to obtain paint color measurements from the vehicle. In the claimed method, the body shop needs only to gather the relevant VIN information and the factory (i.e., manufacturer's) paint code from the vehicle in question, as specified in the claims, and optionally the manufacture date of the vehicle, as specified in certain claims, and then input this information into the claimed method. There is no need to simultaneously input physical color readings (taken from the vehicle) into the claimed method before processing the input data and locating the best matching paint.

The examiner, in the third Office Action dated March 11, 2003, acknowledged the above arguments concerning this fundamental difference between the invention and Corrigan, but also recognized that the claims on file did not specify that the claimed method does not require the input of physical color readings to locate the best match paint formulation. Page 5, lines 5-8 of the third Office Action reads as follows:

Applicant also argued there is no need to input physical color readings into the claimed method. However, Applicant did not specify the method does not need this teaching or the method only contains those teaching that Applicant specified in the claims. Therefore, the Corrigan reference still reads on the instant application.

Applicants responded to this position by amending Claims 1, 3, 5, 7, and 11 to clearly point out that there is no need to simultaneously input physical color readings into the claimed method to identify the best matching paint formulation. The claimed method only requires a very limited set of information, as described on page 5, lines 29-30 and page 7, lines 17-25 of the specification, before processing the input data and locating the matching paint. The terms "gathering only" and "ascertaining only" have been used in the claims to clearly point out that physical color readings are not needed to locate the matching paint. In light of the forgoing amendments, the claims should have no longer been considered by the examiner to read on the Corrigan method.

Nevertheless, the Examiner issued a final rejection (Paper No. 14) on October 7, 2003, where he maintained his rejection of the pending claims 1-13 under 35 USC §102(e) as being anticipated by Corrigan. It is submitted herein that this rejection cannot be maintained, since the claims no longer read on the Corrigan reference.

As pointed out above, Claims 1, 3, 5, 7, and 11 were amended during prosecution, to clearly point out that there is no need to input physical color readings into the claimed method to identify the best matching paint formulation. The claimed method only requires a very limited set of readily available information, namely the vehicle's individual VIN, the automotive manufacturer's paint code for the original finish on the vehicle, and optionally the manufacture date of the vehicle, before processing the input data and locating the best matching paint. The terms "gathering only" and "ascertaining only" have been used in the above claims to clearly point out that additional input data, such as physical color readings, are not needed to run the process and locate the best matching refinish paint, as is needed in the method taught

in Corrigan. The claimed invention is therefore novel over Corrigan. Accordingly, the 102(e) rejection is improper and should be withdrawn.

In addition, although the examiner maintained his 102(e) rejection in the final Action, he appears to have conceded that there is a difference between the claimed invention and the Corrigan reference and also appears to be making an argument for unpatentability on the basis of 35 USC §103(a), without formally issuing such rejection. The last paragraph on Page 4 of the final Office Action reads as follows:

Applicant argues that there is no need to input physical color readings into the claimed method. The Examiner respectfully points out that the instance application just simplifies the Corrigan's method. Any one with skill in the art would recognize that without physical color input, the Corrigan's reference still works properly. The color code can be obtained from the VIN (See fig. 1, element 10). By adding the physical color, Corrigan just wanted to increase the accuracy of the painting job (col. 5, lines 32-27), narrow down the matching colors (col. 9, lines 1-5). Therefore, the instance application is not patentable over Corrigan's reference.

This position is also reiterated in the Advisory Action issued on February 20, 2004.

First, the above is an improper basis for a 102(e) rejection and therefore this rejection should be withdrawn. Secondly, there is nothing in Corrigan that states that the method can be run without measuring and inputting physical paint color data of the vehicle being repaired. (See Corrigan, fig. 1, elements 12 and 14). Furthermore, there are no teaching or suggestions in Corrigan to make such changes to the process taught. If the Examiner knows of a reference that shows or suggests that such changes could be made, it should be made part of the rejection. Without such support, the allegation of obviousness is merely unsupported speculation and should be withdrawn. Finally, if obviousness is the basis for the rejection, a proper rejection should have been made. The rejection on record however cannot be maintained.

The examiner also has failed to appreciate the advancement in the art that the present invention has made over the teachings of Corrigan. Anyone skilled in the art understands that color measurements can only be taken with expensive optical equipment (e.g., spectrophotometers) that must be placed in a body shop. Today, such equipment can cost a body shop about \$20,000 a piece, not including the color software needed to run the device. Smaller body shops cannot afford this extra expense and have to use less sophisticated and time-consuming methods to find the

best matching paint. The claimed method does not require such instrumentation and yet still locates the best match refinish paint formulation a high percentage of the time.<sup>1</sup>

The user (i.e., the autobody shop painter) simply reads the vehicle's individual VIN and manufacturer's paint code and enters it into the claimed method to get the correct refinish paint to match the car. This process gives a skilled body shop painter sufficient accuracy to blend in the repair, such that the small color difference is not perceivable, without requiring physical color readings. From a paint supplier's view, with the present invention, there is also no need to put the considerable effort Corrigan describes of tracking color versus VIN sequence, interpolating, and maintaining this huge database as each repair feeds back a new VIN and its color reading. This interpolation process can be erroneous because it is not necessarily a smooth transition in color as you move through sequential VIN's.

For the above reasons along with the reasons already presented on the record, the present invention constitutes a significant advancement in the art, not just a simplification over Corrigan's method, and should be deemed patentable.

### Conclusion

For the above reasons, reversal of the Office's final rejection and allowance of claims 1-13 are respectfully solicited.

Respectfully submitted,



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<sup>1</sup> For body shops that have such optical equipment, the claimed method does not preclude the body shop, once the matching paint has been found, from later using color readings to verify that the best matching paint has actually been found. See, page 8, lines 14-26 of the specification.

## APPENDIX

1. A method for determining a refinish colorcoat composition that matches the color and color effect of a vehicle's original finish, which comprises in any workable order:

(a) gathering only the VIN (vehicle identification number) and manufacturer's paint code from a vehicle needing refinishing in order to identify the matching refinish colorcoat composition;

(b) extracting from the VIN the model year and manufacturing site information for that vehicle;

(c) searching a database that contains the manufacturer's paint codes, refinish data assigned to each paint code that indicates the matching refinish colorcoat compositions created for that particular paint code, and VIN numbers assigned to each refinish colorcoat composition that indicates the model year and manufacturing site for which that particular refinish colorcoat composition was developed; and,

(d) identifying the refinish colorcoat composition in the database that matches the paint code, model year, and manufacturing site extracted from the vehicle, thereby revealing the refinish colorcoat composition that matches the color and color effect of the vehicle's original finish.

2. The method of claim 1 as practiced by a computer acting under a program.

3. A method for determining a refinish colorcoat composition that matches the color and color effect of a vehicle's original finish, which comprises in any workable order:

(a) gathering only the VIN (vehicle identification number), manufacturer's paint code, and manufacture date from a vehicle needing refinishing in order to identify the matching refinish colorcoat composition;

(b) extracting from the VIN the model year and manufacturing site information for that vehicle;

(c) searching a database that contains the manufacturer's paint codes, refinish data assigned to each paint code that indicates the matching refinish colorcoat compositions created for that particular paint code, VIN numbers assigned to each refinish colorcoat composition that indicates the model year and manufacturing site for which that particular refinish colorcoat composition was developed, and

manufacturing dates assigned to each refinish colorcoat composition that indicates the manufacture dates for which that particular refinish composition is applicable; and,

(d) identifying the refinish colorcoat composition in the database that matches the paint code, model year, manufacturing site, and manufacture date extracted from the vehicle, thereby revealing the refinish colorcoat composition that matches the color and color effect of the vehicle's original finish.

4. The method of claim 3 as practiced by a computer acting under a program.

5. A computer-controlled method for determining a refinish colorcoat composition, suited for refinishing monocoat, clearcoat/colorcoat, and tricoat finishes of vehicles, that matches the color and color effect of the vehicle's original finish within an acceptable color tolerance, which comprises in any workable order:

(a) inputting only the following data into a computer configured to receive such information:

(i) the vehicle's VIN (vehicle identification number)

(ii) the manufacturer's paint code for the vehicle in question

(b) processing the input data by extracting from the VIN number the characters in the positions that indicate, at least, the model year and site of manufacture for the vehicle being refinished, and placing these characters in a VIN id string;

(c) accessing a computer-readable data file that contains the manufacturer's paint codes, refinish data assigned to each paint code that indicates all the approved matching refinish colorcoat compositions created for that particular paint code, and a VIN id string assigned to each refinish colorcoat composition that indicates, at least, the model year and manufacturing site for which that particular refinish colorcoat composition was developed;

(d) executing a search for a refinish colorcoat composition in the computer-readable data file that has assigned thereto a paint code and a VIN id string that match both the paint code and VIN id string of the vehicle in question;

(e) displaying in human-readable form the refinish colorcoat composition uncovered in the search, thereby revealing the refinish colorcoat composition that matches the color and color effect of the original finish of the vehicle in question within an acceptable color tolerance.



6. The method of claim 5, further comprising:

(f) preparing an actual refinish colorcoat composition from the composition displayed; and,

(g) applying the prepared refinish colorcoat composition to an area of the vehicle requiring repair or refinishing.

7. A computer-controlled method for determining a refinish colorcoat composition, suited for refinishing monocoat, clearcoat/colorcoat, and tricoat finishes of vehicles, that matches the color and color effect of the vehicle's original finish within an acceptable color tolerance, which comprises in any workable order:

(a) inputting only the following data into a computer configured to receive such information:

(i) the vehicle's VIN (vehicle identification number);

(ii) the manufacturer's paint code for the vehicle in question;

(iii) the vehicle's manufacture date;

(b) processing the input data by extracting from the VIN number the characters in the positions that indicate, at least, the model year and site of manufacture for the vehicle being refinished, and placing these characters in a VIN id string;

(c) accessing a computer-readable data file that contains the manufacturer's paint codes, refinish data assigned to each paint code that indicates all the approved matching refinish colorcoat compositions created for that particular paint code, a VIN id string assigned to each refinish colorcoat composition that indicates, at least, the model year and manufacturing site for which that particular refinish colorcoat composition was developed; and manufacturing dates assigned to each refinish colorcoat composition that indicates the manufacture dates for which that particular refinish composition is applicable;

(d) executing a search for a refinish colorcoat composition in the computer-readable data file that has assigned thereto a paint code, a VIN id string, and a manufacturing date that match both the paint code, VIN id string, and the manufacturing date of the vehicle in question;

(e) displaying in human-readable form the refinish colorcoat composition uncovered in the search, thereby revealing the refinish colorcoat composition that matches the color and color effect of the original finish of the vehicle in question within an acceptable color tolerance.

8. The method of claim 7, further comprising:

(f) preparing an actual refinish colorcoat composition from the composition displayed; and,

(g) applying the prepared refinish colorcoat composition to an area of the vehicle requiring repair or refinishing.

9. A computer system for retrieving a refinish colorcoat composition that matches the color and color effect of the vehicle's original finish, which comprises a computer that performs the method of claim 1.

10. A computer system for retrieving a refinish colorcoat composition that matches the color and color effect of the vehicle's original finish, which comprises a computer that performs the method of claim 3.

11. A method for determining a refinish colorcoat composition that matches the color and color effect of a vehicle's original finish, which comprises in any workable order:

(a) ascertaining only the manufacturer's paint code, model year, site of manufacture, and optionally date of manufacture of a vehicle needing refinishing in order to identify the matching refinish colorcoat composition;

(b) searching a database of refinish colorcoat compositions wherein each refinish composition in the database has assigned thereto a manufacture's paint code, a vehicle model year, a vehicle site of manufacture, and optionally a vehicle manufacture date; and,

(c) identifying the refinish colorcoat composition in the database that matches the paint code, model year, manufacturing site, and optionally manufacturing date extracted from the vehicle, thereby revealing the refinish colorcoat composition that matches the color and color effect of the vehicle's original finish.

12. The method of claim 11 as practiced by a computer acting under a program.

13. The method of claim 11 wherein the model year and site of manufacture are ascertained from the VIN (vehicle identification number).